

### **Remarks**

Claims 1, 4-8, 11, 13, 15, 16, 20-25 and 34-41 are currently pending. Claims 12 and 14 have been cancelled, and claims 3, 9, 10, 17-19, and 26-33 were previously cancelled. Claim 1 has been cancelled to clarify the claimed subject matter, claim 7 and 8 have been rewritten in independent form. Claim 4, 5, 6, 21, 23, 34, 36, 37 and 38 have been amended to clarify the claimed subject matter. Claim 41 has been added, and is supported throughout the specification, for example, on page 22, line 26 to page 23, line 10. No new matter has been added. Applicant notes with appreciation the indication that claims 7, 8, 11, 13, 16, 24, 38 and 40 would be allowable if rewritten in independent form. As noted above, claims 7 and 8 have been rewritten in independent form.

In view of the above claim amendments and the following remarks, it is respectfully submitted that the claims are allowable and the application should be passed to issue.

### ***Compliance with 35 U.S.C. § 112***

Claims 12, 14, 15, 20, 22, 23, 25, 26, 27 and 39 were rejected under 35 U.S.C. § 112, fourth paragraph as allegedly failing to further limit the claim upon which it depends or failing to include all the limitations of the claim upon which it depends. In addition, Claim 21 was rejected under 35 U.S.C. § 112, second paragraph as allegedly being indefinite for failing to point out and distinctly claim the subject matter regarded as the invention.

Applicant respectfully submits that the claim rejections have been obviated in view of the above claim amendments. Therefore, it is respectfully submitted that the rejections be withdrawn. Accordingly, all of the claims fully comply with 35 U.S.C. § 112.

*Novelty under 35 U.S.C. § 102(b)*

Claims 1 and 4-6 were rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by Kobayashi (2002 Plant Cell Physiology 43: 1259-1265). Applicant respectfully disagrees.

However, in an effort to expedite prosecution, independent claim 1 has been amended and now recites,

One or more gene expression cassettes for expression in *Eucalyptus* cells, comprising one or more genes encoding enzyme UDP-D-glucuronate carboxylase (EC: 4.1.1.35), which is cloned into a transformation binary vector and introduced into bacterium *Agrobacterium tumefaciens*.

Kobayashi simply fails to disclose (either expressly or inherently) the above claimed gene expression cassettes **for expression in *Eucalyptus* cells**. In contrast, Kobayashi is directed to the cloning and introduction of a cassette in *E. coli*. This is a clear distinction from the claimed subject matter directed to a gene expression cassette that for expression in *Eucalyptus*.

Accordingly, it is respectfully submitted that claim 1 is allowable. Furthermore, claims 4-6, 11, 15, 16, 20-25 and 34-40, depend from and further define the subject matter of claim 1 and therefore are also allowable.

*Patentability under 35 U.S.C. § 103(a)*

1, 4-6, 22 and 23 under 35 U.S.C. § 103(a) over Kobayashi et al in view of Cameron-Mills (US 6,031,155). Applicant respectfully disagrees.

However, as discussed above, in an effort to expedite prosecution, claim 1 has been amended, and now recites,

One or more gene expression cassettes for expression in *Eucalyptus* cells, comprising one or more genes encoding enzyme UDP-D-glucuronate carboxylase (EC: 4.1.1.35), which is cloned into a transformation binary vector and introduced into bacterium *Agrobacterium tumefaciens*.

For at least the reasons discussed above, Kobayashi does not teach or suggest the above configuration. Moreover, Cameron-Mills fails to cure the deficiencies of Kobayashi.

Cameron-Mills is directed to the gene sequence encoding of barley endoxylanase, (see abstract). More specifically, Cameron-Mills is directed to a genomic nucleic acid sequence and the 62 kDa barley endoxylanase it encodes, which is used to express enhanced amounts of endoxylanase in host cells, particularly in plants transformed with the gene, permitting enhanced degradation of cell wall xylan (see, column 1, lines 5-8). Cameron-Mills fails to teach or suggest gene encoding of the claimed enzyme and/or *Eucalyptus* transformation by *Agrobacterium*. Cameron-Mills is directed to solve a specific problem related to the fermentation of barley, which is clearly different from the claimed subject matter. Cameron-Mills teaches the expression of a specific enzyme (endoxylanase) in a specific plant (barley), to solve different problems than the claimed subject matter.

Accordingly, because none of the cited references, either taken alone or in combination, teach or suggest the claimed subject matter and because the claimed subject matter achieves unexpected results that would not have been obvious to a person having ordinary skill in the art, it is respectfully submitted that claim 1 and its dependent claims are allowable over the cited references.

***Claims 7, 8, 11, 13, 16, 24, 38, 39 and 40***

Applicant notes with appreciation the indication that claims 7, 8, 11, 13, 16, 24, 38 and 40 would be allowable if rewritten in independent form. As noted above, claims 7 and 8 have been rewritten in independent form; claims 11, 13, 16, 24, 38, 39 and 40 depend from independent claim 8. Accordingly, it is respectfully submitted that claims 7, 8, 11, 13, 16, 24, 38, 39 and 40 are allowable.

*New claim 41*

New claim 41 is allowable over the cited references, at least because none of the cited references teach or suggest the claimed method of modulating the biosynthesis of hemicellulose and/or uronic acid levels in *Eucalyptus* plants.

In view of the foregoing amendments and comments, Applicant respectfully submits that this application should be allowed and the case passed to issue. If there are any questions regarding this application, a telephone call to the undersigned would be appreciated.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

McDERMOTT WILL & EMERY LLP



Aamer S. Ahmed

Registration No. 58,958

600 13<sup>th</sup> Street, N.W.  
Washington, DC 20005-3096  
Phone: 202.756.8000 ASA:MWE  
Facsimile: 202.756.8087  
**Date: October 24, 2011**

**Please recognize our Customer No. 20277  
as our correspondence address.**